LISTING OF CLAIMS:

1. (Currently Amended) A diffractometer comprising:

a base;

an analytical unit supporting a source of a radiation beam having a collimation axis and a radiation beam detector having a reception axis;

said collimation and reception axes converging at a centre of the diffractometer;

said centre of the diffractometer being fixed with respect to said analytical unit;

means for moving said analytical unit with respect to said base;

means for rotating said source and said radiation beam detector around said centre of the diffractometer, so that said collimation axis and said reception axis are kept in an equatorial plane, fixed with respect to said analytical unit;

a support and movement structure supporting said analytical unit;

means for moving said analytical unit with respect to said support and movement structure so that said analytical unit can rotate around an equatorial axis contained in said equatorial plane and passing through said centre of the diffractometer;

said means for moving said analytical unit with respect to said support and movement structure permitting the rotation of the equatorial plane around said equatorial axis, without said support and movement structure changing its position ; and

said means for moving said analytical unit with respect to said base are capable to move said analytical unit to change the position of said equatorial axis with respect to said base.

2. (Previously Presented) The diffractometer according to claim 1, wherein said means for moving said analytical unit enables rotation of said analytical unit around an axis perpendicular to said equatorial axis.

3. (Previously Presented) The diffractometer according to claim 1, wherein said source is a source of electromagnetic radiation, acoustic radiation, or radiation consisting of particle beams and said detector is a detector of electromagnetic radiation, acoustic radiation, or radiation consisting of particle beams.

4. (Currently Amended) The diffractometer according to claim 1, wherein said source is a x-ray source and said detector is a an x-ray detector.

5. (Previously Presented) The diffractometer according to claim 1, wherein said means for moving said analytical unit permit to change a position of said centre of the diffractometer by rotation or translation of said analytical unit.

6. (Previously Presented) The diffractometer according to claim 1, wherein said equatorial axis is perpendicular to a symmetry plane of said analytical unit.

7. (Previously Presented) The diffractometer according to claim 1, wherein the rotation around said equatorial axis is along an arc of at least 10°.

8. (Previously Presented) The diffractometer according to claim 3, wherein said detector is a proportional ionization counter.

9. (Previously Presented) The diffractometer according to claim 1, comprising a pointing device placed on said analytical unit for positioning said analytical unit with respect to an element to be analysed.

10. (Previously Presented) The diffractometer according to claim 98, wherein said pointing device comprises two lasers and a telecamera.

11. (Previously Presented) The diffractometer according to claim 1, wherein said analytical unit is formed as a circular arc.

12. (Currently Amended) A diffractometry method comprising:

positioning a diffractometer including a base, an analytical unit supporting a source of a radiation beam having a collimation axis and a radiation beam detector

having a reception axis, the collimation and reception axes converging at a centre of the diffractometer, the centre of the diffractometer being fixed with respect to the analytical unit;, means for moving the analytical unit with respect to said base, means for rotating the source and the radiation beam detector around the centre of the diffractometer so that the collimation axis and the reception axis are kept in an equatorial plane, fixed with respect to the analytical unit, a support and movement structure supporting the analytical unit, means for moving the analytical unit with respect to the support and movement structure so that the analytical unit can rotate around an equatorial axis contained in the equatorial plane and passing through the centre of the diffractometer, the means for moving the analytical unit with respect to the support and movement structure permitting the rotation of the equatorial plane around the equatorial axis~, without the ~~support and movement structure~~ equatorial axis changing its position and the means for moving the analytical unit with respect to said base moving said analytical unit to change the position of said equatorial axis with respect to said base; and

positioning the centre of the diffractometer on a point of the surface of an element to be analyzed.

13. (Previously Presented) The method according to claim 12, wherein the analytical unit has a symmetry plane and the plane is placed perpendicularly to the surface of the element to be analyzed at the point coincident with the centre of the diffractometer.

14. (Previously Presented) The method according to claim 12, wherein the radiation beam is an x-ray beam.

15. (Previously Presented) The method according to claim 12, wherein the element to be analyzed is not mechanically linked to the diffractometer.